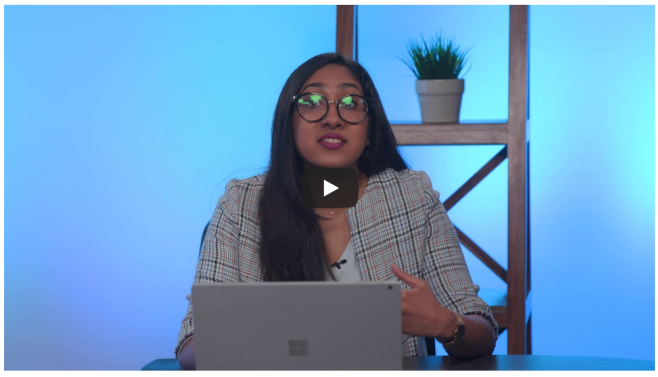
Classical ML vs. Deep Learning



Remember, all deep learning algorithms are machine learning algorithms but not all machine learning algorithms are deep learning algorithms.

Deep learning algorithms are based on neural networks and the classical ML algorithms are based on classical mathematical algorithms, such as linear regression, logistic regression, decision tree, SVM, and so on.

Deep learning advantages:

- Suitable for high complexity problems
- Better accuracy, compared to classical ML
- Better support for big data
- Complex features can be learned

Deep learning disadvantages:

- Difficult to explain trained data
- Require significant computational power

Classical ML advantages:

- More suitable for small data
- Easier to interpret outcomes
- Cheaper to perform
- Can run on low-end machines
- Does not require large computational power

Classical ML disadvantages:

- Difficult to learn large datasets
- Require feature engineering
- Difficult to learn complex functions

QUESTION 1 OF 2

Which of these statements is true about classical ML vs. deep learning?

- ○ Classical ML is a sub-category of deep learning algorithms, based on neural networks.
- ✓ All deep learning algorithms are machine learning algorithms
- ○ All machine learning algorithms are deep learning algorithms

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QUESTION 2 OF 2

For each of the characteristics below, does it better describe *classical ML* or *deep learning*?

Submit to check your answer choices!

CHARACTERISTIC	CLASSICAL ML OR DEEP LEARNING?
Models lack transparency and are difficult to explain	Deep learning
Easier to interpret the results	Classical ML
Can learn arbitrarily complex functions from data	Deep learning
Needs explicit feature engineering	Classical ML

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